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TECHNICAL SPECIFICATIONS
CANYON FERRY WMA STORAGE BUILDING

FWP# 7135327

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SECTION 01010 - SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Owner and Contractor Responsibilities
- B. Contractor use of site and premises.
- C. Scope of Work

1.2 Owner and Contractor Responsibilities

- A. Owners Responsibilities:
 - 1. Staking of building location.
 - 2. Coordination of site access with Montana Department Fish Wildlife and Parks.
 - 3. Obtaining county flood plain permit.
- B. Contractors Responsibilities:
 - 1. Coordination with FWP Engineer Kevin McDonnell
 - 2. Obtaining state building permit
 - 3. Completion of project as bid
 - 4. Quality control of work

1.3 CONTRACTOR USE OF SITE

- A. Limit use of site to allow:
 - 1. Coordinate with FWP to limit public usage in work areas as necessary.

1.3 SCOPE OF WORK

- A. Project Objective: Remove existing storage structure. Construction of building structure as described in plans and specifications.

B. Scope of Work:

Work includes the following but is not limited to the general description contained herein:

BASE BID ITEMS:

1. Demolition: Includes all equipment, material and labor to remove existing structure and dispose of in a safe and legal manner. All material from the existing building shall become the property of the contractor.
2. Excavation: All materials and labor required to complete the excavation of top soil from building pad footprint, placement and spreading of spoils on Canyon Ferry WMA site. All unclassified excavation related to building construction.
3. Site Preparation: Includes all material and labor to prepare building site as described in the plans and specifications. Including but not limited to structural fill, placement, grading and compaction of structural fill.
4. Pole Structure Building: All material and work required to complete the pole structure storage building as per plans and specifications.

C. CONTRACTS:

All work shall be done under one general contract.

END OF SECTION

SECTION 01019
CONTRACT CONSIDERATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Application for Payment
- B. Change procedures
- C. Project Staking
- D. Environmental Considerations

1.2 RELATED SECTIONS

- A. Section 01025 - Measurement and Payment.
- B. Section 01400 - Quality Control

1.4 APPLICATIONS FOR PAYMENT

- A. Submit 1 copy of each application on Department Fish, Wildlife and Parks Form 101.
- B. Content and Format: Utilize Schedule of Values on payment form for listing items in Application for Payment.
- C. Payment Period: 30 days.

1.5 CHANGE ORDER PROCEDURES

- A. The Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time as authorized by State of Montana, General Conditions of the Contract.
- B. The FWP Engineer may issue a Change Directive, which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change. Contractor will prepare and submit an estimate within 5 days.
- C. The Contractor may propose changes by submitting a request for change to the FWP Engineer describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors.
- D. Unit Price Change Order: For pre-determined unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units, which are not pre-determined, execute Work under a Construction Change Directive. Changes in

Contract Sum/Price or Contract Time will be computed from the Schedule of Values.

1.6 PROJECT STAKING

- A. Construction staking provided by the owner
 - 1. Staking of building location.
 - 2. If owners staking is destroyed through careless actions of the Contractor, the staking may be replaced by the owner and the cost of replacement deducted from the Contractor's contract.
- B. Construction staking provided by the Contractor
 - 1. All staking desired by the Contractor in addition to that noted above shall be provided by the Contractor.

1.7 ENVIRONMENTAL CONSIDERATIONS

- A. The Contractor shall use best management practices to prevent silt, soil and debris from entering the water. This may include straw, gravel or fabric. Temporary dikes to divert rainwater may be used, provided they are removed and the gravel or soil returned to the original condition. Exposed soil may require straw or similar cover to minimize erosion caused by rain. Other appropriate methods may be used at the Contractors' discretion or as directed by the owner.
- B. Equipment used in or near water shall not leak fluids. It shall be power washed before use on the site and examined by the engineer.
- C. All material removed from the site will be disposed of in a safe and legal manner.

END OF SECTION

SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Measurement and payment criteria applicable to the Work performed under a lump sum price payment method.
- B. Defect assessment and non-payment for rejected work.

1.3 QUANTITIES SPECIFIED

- A. Lump sum bid item quantities will not be measured. Payment for these lump sum bid items will be per bid form.
- B. If the actual Work requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit sum/prices contracted.

1.5 PAYMENT

- A. Payment Includes: Full compensation for all required labor, Products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.6 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Engineer it is not practical to remove and replace the Work, the Engineer will direct one of the following remedies:
 - 1. The defective Work will be repaired to the instructions of the Montana Department of Fish, Wildlife and Parks Engineer and the unit sum/price will be adjusted to a new sum/price at the discretion of the Montana Department of Fish, Wildlife and Parks Project Engineer.
 - 2. The defective work will not be repaired. The Project Engineer will adjust the unit sum/price of the work to reflect the degree of defectiveness and subsequent serviceability.
- C. The individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.
- D. The authority of the Montana Department of Fish, Wildlife and Park Project Engineer to assess the defect and identify payment adjustment, is final.

1.7 NON-PAYMENT FOR REJECTED PRODUCTS

- A. Payment will not be made for any of the following:
1. Products wasted or disposed of in a manner that is not acceptable.
 2. Products determined as unacceptable before or after placement.
 3. Products not completely unloaded from the transporting vehicle.
 4. Products placed beyond the lines and levels of the required Work.
 5. Products remaining on hand after completion of the Work.
 6. Loading, hauling and disposing of rejected Products.

END SECTION

SECTION 01029

UTILITIES WITHIN WORK AREAS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Utilities within work areas.
- B. Contractor's responsibilities.

1.2 UTILITIES WITHIN WORK AREAS

- A. The contractor shall be responsible for determining the location of any utilities in the project area.
- B. The contractor shall be responsible for working safely around any utilities that are located within the project area.

1.3 CONTRACTOR RESPONSIBILITIES

- A. Notification: The Contractor shall contact, in writing, all public and private utility companies that may have utilities that may be encountered during excavation. The notification shall include the following information:
 - 1. The nature of the work the Contractor will be performing.
 - 2. The time, date, and location the Contractor will be performing work that may conflict with the utility.
 - 3. The nature of work the utility will be required to perform such as moving a power pole, supporting a pole or underground cable, etc.
 - 4. Requests for field location and identification of utilities.
- B. Overhead Utilities: The Contractor shall use extreme caution to avoid a conflict, contact, or damage to overhead utilities such as power lines, telephone lines, television lines, poles, or other appurtenances during the course of construction of this project.

END OF SECTION

COORDINATION AND MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination.
- B. Alteration project procedures.
- C. Preconstruction conference.

1.2 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Coordinate completion and clean up of Work of separate Sections in preparation for Substantial Completion.
- C. After Owner occupancy of site, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.
- D. Contractor will coordinate all work activities with the Montana Department of Fish, Wildlife and Parks Engineer Kevin McDonnell.

1.3 PRECONSTRUCTION CONFERENCE

- A. Engineer will schedule a conference after Notice of Award is issued.
- B. Attendance Required: Engineer, Contractor and the Regional Fish, Wildlife and Parks representative when possible.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of products, Schedule of Values, and progress schedule.
 - 5. Designation of personnel representing the parties in Contract, and the Engineer.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders and Contract closeout procedures.
 - 7. Scheduling.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Product data.
- E. Samples.
- F. Manufacturers' instructions.
- G. Manufacturers' certificates.
- H. Construction photographs.

1.2 SUBMITTAL PROCEDURES

- A. Transmit each submittal to Project Manager no less than 5 days before product installation.
- B. Apply Contractor's stamp, signature or initial certifying that review and verification of Products submitted, is in accordance with the requirements of the Work and Contract Documents.
- C. Schedule submittals to expedite the Project.
- D. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- E. Revise and resubmit submittals as required, identify all changes made since previous submittal.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule within 15 days after date established in Notice to Proceed for Project Manager's review.

1.3 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Notice to Proceed, submit complete list of major products/aggregates proposed for use, with name of manufacturer/supplier, trade name, and model number of each product.
- B. 5 days prior to installation of surfacing aggregate materials, submit aggregate laboratory test analysis for the aggregate along with the name of the supplier.
- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.5 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, in quantities specified for Product Data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.

1.6 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification Sections, submit manufacturers' certificate to Engineer for review, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance and control of installation.
- B. References
- C. Inspection and testing laboratory services.

1.2 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.3 REFERENCES

- A. Conform to reference standard by date of issue current on January 1, 2005.
- B. Should specified reference standards conflict with Contract Documents, or Regulations request clarification for Architect/Engineer before proceeding.
- C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

OWNER

- A. Engineer will perform periodic field inspections to determine if testing is required.

END OF SECTION

SECTION 01560

TEMPORARY CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Weed Control.
- B. Water Control.
- C. Dust Control.
- D. Erosion and Sediment Control
- E. Pollution Control
- F. Traffic Control

1.2 RELATED SECTIONS

- A. Section 01010 - Summary of Work
- B. Section 01039 - Coordination and Meetings

1.3 WEED CONTROL

- A. Seed and reclaim disturbed areas as soon as possible.
- B. Thoroughly clean equipment before bringing on site and notify Engineer for inspection.

1.4 WATER CONTROL

- A. Grade site to drain away from natural water bodies. Maintain excavations free of water.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.5 DUST CONTROL

- A. Contractor shall grade and compact materials as soon as possible after being placed.

1.6 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Minimize amount of bare soil exposed at one time.
- C. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
- D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.7 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Provide portable sanitation facility for contractor's workers and subcontractors.

1.8 TRAFFIC CONTROL

- A. Provide all temporary signing, personnel and traffic control devices as required by federal, state and local regulations.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

PART I GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Substitutions.

1.2 PRODUCTS

- A. Products: Means new material, components, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

1.3 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated products, place on sloped supports, above ground.
- C. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- D. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

- E. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

1.5 SUBSTITUTIONS

- A. Engineer will consider requests for Substitutions only within 15 days after date established in Notice to Proceed.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Will provide the same warranty for the Substitution as for the specified product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence.
 - 3. The Engineer will notify Contractor, in writing, of decision to accept or reject request.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Adjusting.
- D. Project record documents.

1.2 CLOSEOUT PROCEDURES

- A. Notify the Engineer within 5 days of Work completion that Work is complete in accordance with Contract Documents and ready for Project Manager's final inspection.
- B. Provide submittals to Engineer that are required by governing or other authorities or Owner.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due. Include Certificate of Substantial Completion, Affidavit on Behalf of the Contractor, Consent of Surety Company to Final Payment and As-built drawings and specifications.
- D. Owner will occupy all portions of the site.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean equipment and fixtures to a sanitary condition.
- C. Clean site, rake clean landscaped areas, leave all disturbed areas relatively smooth with no wheel tracks, ridges or ruts.

1.4 PROJECT RECORD DOCUMENTS

- A. Maintain on site, one set of the following record documents; record actual revisions to the Work:
 - 1. Contract Drawings.
 - 2. Specifications.

3. Addenda.
 4. Change Orders and other Modifications to the Contract.
 5. Reviewed shop drawings, product data, and samples.
- B. Store Record Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and Modifications.
- E. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 2. Field changes of dimension and detail.
 3. Details not on original Contract drawings.
 4. Product substitutions or alternates utilized.
 5. Changes made by Addenda and Modifications.
- F. Submit documents to Engineer with claim for final Application for Payment.

1.5 WARRANTIES

- A. All work shall be warranted free from defect for a period of one year from final inspection date.

END OF SECTION

SECTION 02110

SITE CLEARING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Remove surface debris.
- B. Clear only areas designated for construction of plant life and grass.
- C. Tree and shrub removal.
- D. Topsoil excavation.
- E. Measurement and Payment

1.2 REGULATORY REQUIREMENTS

- A. Conform to State and County codes for disposal of debris and burning debris on site.
- B. Coordinate clearing Work with utility companies.

PART II EXECUTION

1.1 PROTECTION

- A. Locate, identify, and protect utilities that remain, from damage.
- B. Protect trees, plant growth, and features designated to remain, as final landscaping.

1.2 CLEARING

- A. Clear areas required for access to site and execution of Work.
- B. Remove root system of woody plants to a depth of 24 inches below finished grade.
- D. Clear undergrowth and deadwood, without disturbing subsoil.

1.3 REMOVAL

- A. Remove extra top soil, rock, and extracted plant life to designated area.
- B. Dispose of any additional material according to local regulations.

1.4 TOPSOIL EXCAVATION

- A. Excavate and stockpile topsoil from all areas that are to receive fill or further excavation.
- B. Stockpile location to be approved by Engineer.

1.5 MEASUREMENT AND PAYMENT

- A. The work described in Section 02110 will be incidental to the Excavation. See Item #2 on the Bid Form and Section 01010 Summary of Work

END OF SECTION

SECTION 02207

AGGREGATE MATERIALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. References
- B. Submittals
- C. Aggregate materials and engineering fabric
- D. Source quality control
- E. Stockpiling
- F. Stockpile clean up

1.2 RELATED SECTIONS

- A. Section 02211 - Rough Grading.
- B. Section 02231 - Aggregate Courses.

1.3 REFERENCES

- A. AASHTO - M147 - Materials for Aggregate and Soil-Aggregate.
- B. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- C. ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb. (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.
- D. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- E. ASTM D4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.4 SUBMITTALS

- A. Submit laboratory test results for each type of aggregate material 5 days prior to installation, for Project Manager approval.
 - 1. Each aggregate material used as a base or surfacing material shall have as a minimum the following laboratory tests completed:
 - I. Sieve Analysis
 - II. Proctor
 - III. Atterberg Limit Test (crushed top surfacing only)
- B. Materials Source: Submit name of imported materials suppliers. Provide materials from same source throughout the work. Change of source requires retesting at the Contractor's expense.
- C. Change of source requires Engineer's approval.

PART 2 PRODUCTS

2.1 AGGREGATE MATERIALS AND ENGINEERING FABRIC

- A. Pit run base course, 3" (-) free of shale, clay, friable material and debris; graded in accordance with AASHTO T-11 and T-27, within the following limits:

TABLE OF GRADUATIONS
Percentage of Weights Passing Square
Mesh Sieves

| | Grade 1 |
|---------------|----------------|
| 3 Inch Sieve | 100% |
| No. 4 Sieve | 25-60% |
| No. 200 Sieve | 2-10% |

- 1. Material shall be evenly graded.
- 2. 5% oversized material is permitted.

- B. Crushed Surfacing; free of silt, lumps of clay, loam, friable or soluble materials, and organic matter; graded in accordance with ANSI/ASTM C136; within the following limits:

TABLE OF GRADUATIONS
Percentage by Weights Passing Square
Mesh Sieves

| Passing | % Passing |
|---------|-----------|
| 1" | 100 % |
| 3/4" | |
| 1/2" | |
| 3/8" | |
| #4 | 40% - 70% |
| #10 | 25% - 55% |
| #16 | |
| #30 | |
| #50 | |
| #100 | |
| #200 | 5% - 12% |

The aggregate for all grades, including added binder or filler, shall meet the following supplemental requirements.

- (1) Dust Ratio. The portion passing the No. 200 Sieve shall not be greater than 2/3 of the portion passing the No. 40 Sieve.
- (2) The liquid limit for that portion of the fine aggregate passing a No. 40 Sieve shall not exceed 25 and the plasticity index (PI) shall be less than six, as determined by AASHTO T-89 and T-90.
- (3) No intermediate sizes for cover aggregate, or for other purposes, shall be removed from the material in the course of production unless authorized in writing by the Architect/Engineer.
- (4) The material shall meet all the requirements of this section when it arrives on the project site. Windrow mixing of different materials to obtain the specified material will not be allowed. If bentonite is to be added, it shall be done in a method approved by the Engineer.
- (5) At least 50% by weight of the aggregate retained on the No. 4 sieve must have at least one mechanically fractured face.

2.2 SOURCE QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of General Conditions.
- B. Tests and analysis of aggregate material will be performed in accordance with AASHTO T-11 and T-27 and as specified in this Section.
- C. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.1 STOCKPILING

- A. Stockpile materials on site at locations approved by Engineer.
- B. Separate differing materials with dividers or stockpile apart to prevent mixing.
- C. Stockpile in sufficient quantities to meet project schedule and requirements.
- D. Direct surface water away from stockpile site so as to prevent erosion or deterioration of materials.

3.2 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in a clean, neat condition reseed as necessary. Grade site surface to prevent freestanding surface water.

END OF SECTION

SECTION 02211

ROUGH GRADING

PART 1 GENERAL

1.1 SECTION INCLUDE

- A. Removal of topsoil and subsoil.
- B. Excavating, grading, filling and rough contouring the site for parking area and boat ramp construction.
- C. Measurement and Payment

1.2 RELATED SECTIONS

- A. Section 01410 - Testing Laboratory Services: Testing fill compaction.
- B. Section 02110 - Site Clearing
- C. Section 02207 - Aggregate Materials.

1.3 REFERENCES

- A. AASHTO T180 - Moisture-Density Relations of Soils using a 10-lb (4.54 kg) Rammer and an 18-in. (457 mm) Drop.
- B. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

PART 2 EXECUTION

2.1 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Stake and flag locations of known utilities.
- C. Notify utility companies to locate buried utilities.
- D. Locate, identify, and protect utilities that remain from damage.

2.2 TOPSOIL AND SUBSOIL EXCAVATION

- A. Excavate topsoil and subsoil from marked areas.

- B. Stockpile topsoil in area approved by Engineer.
- C. Topsoil will be blended into landscape and seeded, or used for reclamation on site.
See Section 02936

2.3 FILLING

- A. Fill areas to contours and elevations with unfrozen materials.
- B. Place fill materials on continuous layers and compact. See Section 02231
- C. Maintain optimum moisture content of fill materials to attain required compaction density. Compact to minimum 95 percent of maximum density.
- D. Make grade changes gradual. Blend slope into level areas.

2.4 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed as necessary by the Engineer. Compaction testing will be performed in accordance with ASTM D2922. If determined necessary by the FWP Engineer.
- B. Placement of base aggregate and subsequent road surfacing shall not commence until Engineer has been notified and has had 48 hours to inspect rough grading.

2.4 MEASUREMENT AND PAYMENT

- A. The Rough Grading described in Section 02211 shall be included under Excavation Bid Item #2 on the Bid Form.

END OF SECTION

SECTION 02231

AGGREGATE COURSES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aggregate courses.

1.2 RELATED SECTIONS

- A. Section 01025 - Measurement and Payment: Requirements applicable to lump sum.

1.3 REFERENCES

- A. AASHTO T180 - Moisture-Density Relations of Soils using a 10lb (4.54 kg) Rammer and an 18 in. (457mm) Drop.
- B. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- C. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

PART 2 PRODUCTS

2.1 SURFACING MATERIALS

- A. 1 inch minus crushed surfacing: As specified in Section 02207.
- B. 3 inch minus pit run: As specified in Section 02207.

PART 3 EXECUTION

3.1 AGGREGATE PLACEMENT

- A. Spread material over prepared substrate to a total compacted thickness indicated for each material. A vibratory roller is suggested for compaction. Compact to minimum 95 percent of maximum density.

- B. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- C. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.2 TOLERANCES

- A. Flatness: Maximum variation of 1/10 foot in 10 feet measured along existing slope.
- B. Scheduled Compacted Thickness: Within 1/4 inch of designated thickness.
- C. If tests indicate Work does not meet specified requirements, Project Manager may at his discretion direct the Contractor to rework the material and retest or remove work, replace and retest.

3.3 FIELD QUALITY CONTROL

- A. Contractor will be responsible for field quality control.
- B. Compaction testing will be performed in accordance with ASTM D2922.
- C. If tests indicate Work does not meet specified requirements, recompact and retest or at Engineer's discretion, remove Work, replace and retest.

3.4 MEASUREMENT AND PAYMENT

- A. All material and labor described in this section associated with the 3" (-) pit run structural fill shall be bid and compensated under Site Preparation Bid Item #3 on the Bid Form.
- B. All material and labor associated with the 1" (-) crushed surfacing shall be bid and compensated under Storage Building Bid Item #4 on the Bid Form.

END OF SECTION

BUILDING SPECIFICATION

PART 1 GENERAL

1.1 SUMMARY

- A. The BASE BID for this contract includes the construction of a 24' wide x 80' long x 14' (varies-see elevation drawings) sidewall height shed roof pole barn type structure on concrete pier foundations with steel wall and roof panels and other features as described in this specification including:
 - a. One sidewall left open with no sheeting or girts on four of the six bays. Openings to be supported by columns as specified. The other two bays shall have overhead doors.
 - b. Partition wall separating the four open bays from the two closed bays with metal sheeting on one side from floor to roof .
 - c. Two (2) 14' Wide x 14'6" High overhead sectional doors. One in each of the two bays in the enclosed portion of the building.
 - d. One 3' Wide x 7' High hollow metal doors and frames with heavy duty commercial hardware.
 - e. Concrete thresholds under overhead doors and walk through door.
 - f. All necessary site work to complete the specified building.
 - g. All construction related site cleanup during construction and at project completion.
- B. Work shall meet or exceed all specifications set forth in this document. If there is a conflict between specifications, the more stringent will apply, unless otherwise specifically authorized by the Owner.

1.3 SUBMITTALS

- A. Building plans shall be submitted to the FWP Engineer for review prior to application for state building permit. The building plan shall meet all criteria set forth in the plans and specifications.
- B. Contractor shall submit manufacturer's standard color samples for siding, roof, trim, doors and fiberglass panels to the Owner. Materials shall not be ordered until Owner has approved color selections.
- C. Contractor shall submit manufacturer/supplier product data for metal roof and wall material, framing material, concrete mix design, gravel gradations, doors, overhead doors, and all accessory materials.

- D. At Substantial Completion, Contractor shall submit (2) copies of Operations and Maintenance Manuals including record drawings, manufacturer's maintenance instructions and material warranties.

1.4 QUALITY ASSURANCE

- A. All work performed and materials provided shall meet or exceed the minimum requirements of these specifications, manufacturer's installation instructions and requirements, whichever is more stringent.
- B. All materials shall be delivered to the project site in manufacturer's unopened packaging with labels intact. Materials shall be stored in a secure manner off the ground at the project site to prevent any damage, staining or other physical damage from vandalism, accidental damage, weather, direct sunlight, construction activities and any other cause. Comply with manufacturer's recommendations regarding storage. Damaged materials shall not be installed and shall be replaced by the Contractor at no additional cost to the Owner.
- C. All materials delivered and installed permanently on the project shall be new or in new condition.

1.5 WARRANTY

- A. Contractor's one year labor and materials warranty shall commence on the date of substantial completion.
- B. Metal siding and roofing shall have a 25 year minimum manufacturer's warranty.
- C. Posts and roof trusses shall have a lifetime manufacturer's warranty.

PART 2 PRODUCTS

1.1 POLE BUILDING

- A. Nominal building dimensions shall be 24' wide x 80' long x 14' nominal height (varies-see drawings). Clear inside height shall be measured from the finished gravel surface to underside of the truss bottom chord.
- B. Clear opening at open side wall shall be 13' measured from the finished gravel surface to the underside of the roof supporting beam.
- C. Roof slope shall be 2:12 with gable ends. Roof framing shall be factory manufactured trusses, lumber purlins, factory manufactured fasteners and anchors as

designed. Trusses shall also be capable of suspending overhead doors and operators and electrical equipment as specified herein.

- D. Structure shall be framed with #1 or better kiln dried lumber. Lumber exposed to weather or within 6" of grade shall be pressure treated with 100% penetration.
- E. Metal roofing and siding shall be structural quality, pre-engineered building metal, providing a low-maintenance metal building siding system. Coating system shall be a polyester paint system and shall include as a minimum galvanized coating, zinc pre-treatment, sealer, primer and finish coats on each side. Siding shall include all caulk, flashing, trim metals and any special fabrications to provide a weather tight envelope. Steel siding and roof panels shall be connected by corrosion resistant screws with rubber/neoprene washers.
 - a. Roofing shall be 26 ga. minimum.
 - b. Siding shall be 29 ga. minimum.
- F. Contractor shall install 4000 psi concrete door thresholds on a 4" lift of 11/2" minus compacted crushed structural fill gravel in entire area of structure. Reinforce with #4 reinforcement bar at 24" on center each way.
- G. Overhead garage doors shall be hollow core insulated metal doors with 14'6" minimum overhead clearance and shall be equipped with manual latch and interior locking mechanism. Door hardware, springs and structural elements shall be of a commercial quality. Finish shall be a baked on, polyester finish or approved equal.
- H. Man doors shall be hollow core insulated metal doors with metal frames. Provide key lock exterior style door hardware for man door. Door hardware shall be of a commercial quality.

PART 3 EXECUTION

1.1 GENERAL

- A. Contractor shall examine and verify existing conditions prior to bidding, construction and design. Contractor is fully responsible to measure existing conditions, procure materials and ensure a complete 'turn-key' project to the Owner.
- B. Contractor shall provide all temporary power, scaffolding, lift equipment, temporary weatherproofing, and temporary shoring of the building and any other staging equipment and/or materials necessary to complete the work.
- C. Contractor shall comply with all manufacturers' recommended installation instructions.

1.2 INSTALLATION

- A. Following approval by the Owner of all submittals the Contractor shall commence site work.
- B. Contractor shall dispose of all unused materials off-site in a legal manner.
- C. Contractor shall prepare building and site construction as necessary to install the building components.
- D. Contractor shall furnish and install all work and all peripheral elements of the work as listed in these specifications, required by the structural design, in accordance with the manufacturer's instructions.
- E. Completed Project shall be weather-tight at all joints, penetrations and seams and construction shall be square, plumb, and properly fitting in all locations.

1.3 BUILDING COMPLETION AND SITE CLEANUP

- A. Grading of structural fill around finished structure shall be at finished floor elevation for 5' beyond the building drip line and slope at 12:1 to daylight.
- B. The Contractor shall be responsible for final clean up at the end of the project to a level satisfactory to the Owner. All construction debris, no matter how small, shall be collected and removed from the site. All wheel ruts shall be filled in and be leveled to match the adjacent grade and material. Re-seeding or re-sodding, or other re-surfacing may be necessary to repair any construction related impacts or damage.
- C. At the end of each construction day, site shall be cleaned of garbage and debris, unused construction materials shall be stacked in the owner designated staging area and the site shall be left looking as neat and orderly as practical.
- D. All survey markings, stakes, temporary paint marks, flagging and other devices shall be removed regardless of who installed them. All excess pavement, concrete, gravel, soil, or other construction materials not intended for permanent use shall be removed.
- E. All final slopes shall be dressed manually to remove woody debris, accumulated trash and oversized material. Any new slope or topsoil surfaces shall be hand raked to provide a uniform appearance. The contractor shall dress all gravel, pavement and concrete edges to eliminate abrupt edges and provide a smooth transition. All construction related temporary sediment control devices shall be removed as soon as practical.
- F. Clean all finished surfaces immediately prior to substantial completion in accordance with the manufacturer's cleaning and maintenance instructions.

- G. Protect installed components to ensure that, except for normal weathering, components will be without damage until time of substantial completion.
- H. Adjust doors and operators as necessary for operation to the satisfaction of the Owner prior to final completion. Provide a minimum of two (2) sets of keys for door locksets.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Lump sum. A schedule of values, completed by the Contractor, shall be included with the request for payment.

4.2 PAYMENT

- B. All materials and work required to complete the construction of the Storage Building as described in the plans and specifications shall be bid and compensated under Bid Item #4 Storage Building on the Bid Form.